

Work Order ID 79816

79816

Page 1

February-03-12 12:54:38 PM

Item ID: D105-674-011G

Accept

N9000040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Skidtube, Grey

Start Date: 03/02/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 17/02/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: M.L.J

Date: 12/02/03 Tooling:

Date:

Run Start *NR1*

QC:

Date: SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2966

Rev A2

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPP D105-674-011G

CHG002

8/12/03/25

130

0.00

130

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

** Pull D2966-1bent **

1-Cut Aft end at 107.06" using DT8185D

2-Debur ends

3-Drill Aft Cap holes using DT8678

4-Locate DT8679 with 1/8 clecos in Aft Cap holes. Ensure DT8679 is centered on Fwd end of tube and drill #40 Fwd bushing.

5-Clamp DT8679 to the tube. Drill all #30 wearplate and crossbolt holes.

6-Open Aft Cap holes using #6 drill

7-Open wearplate holes and two side holes to Ø19/64" (0.297") as per Dwg D2966-1.

8-Debur holes

9-Open remaining (16) crossbolt holes to Ø0.500

1/20

12-02-24

SAD 12-02-15

B79816

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140

0.00

140

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Weld Fwd Cap as per Dwg D2966 and QSI 004. Fill #40 Fwd cleco hole.
2-Grind Fwd Cap welds flush

A/R M120164 AE 12/03/15

DP 12-3-15

150

QC10- Inspect visual per QSI004- ground welds

0.00

150

QC

Memo

0.00

Quality Control

8.26.15

160

QC5- Inspect part completeness to step on W/O

0.00

160

QC

Memo

0.00

Quality Control

8.26.15

W/O:		WORK ORDER CHANGES					
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Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***


Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	Chemical Conversion Coat per QSI005 4.1	0.00							
170									
HandFinish	Memo	0.00							
Hand Finishing									
180	QC3- Inspect Part Finish	0.00							
180									
QC	Memo	0.00							
Quality Control									
190	Skidtubes	0.00							
190									
Skidtubes	Memo	0.00							
Skidtubes	1-Open crossbolt holes to finish size as per Dwg D2966 2-Open 14 holes to Ø0.750" & 2 holes to Ø0.875", countersink crossbolt holes & remove alodine to prepare for welding as per Dwg D2966 3-Deburr holes inside & outside, blow out chips								

1 / 0 CF 12-3-15

DD 12-3-15 PTO

1 / 0 CF 12-3-15

Dart Aerospace Ltd

W/O: 79816		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
12-5-15	180	Stand read QC7		12-3-15		W 12-04-15	S 12-04-15

Part No: D105-674-011G PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Cust Item ID:

Required Date: 17/02/2012 Req'd Qty: 1.00 ***1***

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Reference:

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Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

0.00

200

Skidtubes

Skidtubes

Memo

0.00

1-Bond Web in place per QSI 015. (Ensure holes line up)

Pick:

A/R Sikaflex-291 batch: M120813

Sikaflex expiry date: 12-03-13

start time: 8:00 AM

end time: 12-03-16 8:00 AM

2-Weld Crossbolt Spacers as per Dwg D2966 and QSI 004. For crossbolt spacer, weld one side, pass 5/8" drill; weld other side, pass 5/8" drill.

Pick:

A/R Aluminum Rod batch: M120164

3-Pass Ø0.630" drill to remove spillover for D2973 crossbolt. Pass Ø0.750" drill to remove spillover for D2971 crossbolt.

4-Grind welds flush as per Dwg D2966

210

QC10- Inspect visual per QSI004- ground welds 0.00

210

QC

Memo

0.00

Quality Control

②
SAD 12-03-15

BE 12-03-16
CF 12-3-15

12-03-19
12-03-19

W/O:		WORK ORDER CHANGES					
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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	QC5- Inspect part completeness to step on W/O	0.00							
220									
QC	Memo	0.00							
Quality Control									
225	Chemical Conversion Coat per QSI005 4.1	0.00							
225									
HandFinish	Memo	0.00							
Hand Finishing									
230	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3	0.00							
230									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 1:15 OVEN TEMPERATURE: 320 FINISH TIME: 1:45								

W/O:		WORK ORDER CHANGES					
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1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

240

QC3- Inspect Part Finish

0.00

240

QC

Memo

0.00

Quality Control

IXP M-L 12/03/26

250

HandFinishing

0.00

250

HandFinish

Memo

0.00

Hand Finishing

1-Inspect for foreign objects as per QSI 024

2-Install Inserts, Wearplate and Cap per Dwg D2966. Insert a drop of sikaflex at insert holes before installing wearplates. Seal Aft Cap using Sikaflex. Install bushing and nut. By looking Fwd, install nut to right hand side.

Pick:

QtyPart NumberDescriptionBatch

A/RSikaflex-291

Sikaflex expiry date:

Black M 119443
12/10

3-Wing Walk as per Dwg D2966 and QSI 005 4.4

Batch:

M120902

IXP M-L 12/03/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

260 QC3- Inspect Part Finish 0.00

260

QC

Memo

0.00

Quality Control

1 12/02/2012

270 QC5- Inspect part completeness to step on W/O 0.00

270

QC

Memo

0.00

Quality Control

8/2/13/27

*****ENSURE INSERT ARE AT LOCATION (6) AS PER DWG D2966*****

280 Pick Kit 0.00

280

Packaging

Memo

0.00

Packaging

1x SP 12-03-29. 50

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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 Item Name: Skidtube, Grey
 Start Date: 03/02/2012 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 17/02/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

290	QC4- 100% Inspect kits for completeness	0.00							
290									
QC	Memo	0.00							
Quality Control									

300	Packaging	0.00							
300									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D105-674-011G								
	Location: <u>Rev A</u>								

310	QC21- Final Inspection - Work Order Release	0.00							
310									
QC	Memo	0.00							
Quality Control									

1X SP12-03-29

MLJ 12/04/02

12-04-2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Picklist Print

February-03-12 12:54:42 PM

Page 1

Work Order ID: 79816

79816

Parent Item: D105-674-011G

D105-674-011G

Parent Item Name: Skidtube, Grey

Start Date: 03/02/2012

Required Date: 17/02/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A04.07.07New IssueKJ/JLM
seq110 DD verf:EC

IPP Rev:B 10.06.09 remove

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2966-1-BENT		Manufactured	No			130	Each	0.0000	1	1			
D2966-1-BENT													
Skidtube Assembly 105													
D2964		Manufactured	No			140	Each	29.0000	1	1			
D2964													
Cap													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG002		29							
				74719		29							
D2976		Manufactured	No			200	Each	0.0000	1	1			
D2976													
BO 105 Skidtube I Beam													
D2971		Manufactured	No			200	Each	34.0000	1	1			
D2971													
Cross Bolt Spacer													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG001		34							
				74720		34							
D2973		Manufactured	No			200	Each	58.0000	7	7			
D2973													
Cross Bolt Spacer													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG002		58							
				14636		58							

B77444 **

12/03/24

**

BE 12/03/15

B80094 **

SAD 12-03-15

**

BE 12-03-15

**

BE 12-03-15

7

W/O:		WORK ORDER CHANGES					
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D105-674-011G

Parent Item Name: Skidtube, Grey

Start Date: 03/02/2012

Required Date: 17/02/2012

Start Qty: 1.00

Required Qty: 1.00

D2965 Manufactured No

250 Each 22.0000 1 1

D2965

Cap, 105 Skidtube

Location

Loc Qty

Loc Code

FP002

22

71371

22

**

D2970-1 Manufactured No

250 Each 7.0000 1 1

D2970-1

Wearplate

Location

Loc Qty

Loc Code

FP001

7

48213 ✓

7

**

D2970-3 Manufactured No

250 Each 5.0000 1 1

D2970-3

Wearplate

Location

Loc Qty

Loc Code

FP001

5

48214 ✓

5

**

D3176-1 Manufactured No

250 Each 10.0000 1 1

D3176-1

Bushing

Location

Loc Qty

Loc Code

ST032

10

37586 ✓

10

**

D3176-3 Manufactured No

250 Each 13.0000 1 1

D3176-3

Nut

Location

Loc Qty

Loc Code

ST032

13

44896 ✓

13

**

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Shop Packet Print

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Parent Item Name: Skidtube, Grey

Start Date: 03/02/2012

Required Date: 17/02/2012

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130

Purchased

No

250

Each

2,472.000

36

36

AIS7-1032-130

Insert

**

m-l 12/03/26

Location

Loc Qty

Loc Code

ST280

328

117717

27

118966

22

119775

279

ST281

71

119794

71

ST282

2073

119530

73

120181

2000

MS27039-1-08

Purchased

No

250

Each

1,559.000

26

26

MS27039-1-08

Screw

**

121011

m-l 12/03/26

Location

Loc Qty

Loc Code

ST291

1559

117423

77

118910

2

119075

292

119109

188

120308

1000

AN960JD10L

NAS1149D0332J

Purchased

No

250

Each

0.0000

28

28

*AN960.ID10I *

Washer

**

120644

m-l 12/03/26
28
X

W/O:		WORK ORDER CHANGES						
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Parent Item Name: Skidtube, Grey

Start Date: 03/02/2012

Required Date: 17/02/2012

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-09

Purchased

No

250

Each

455.0000

2

2

MS27039-1-09

Screw

**

m/d 12/03/26

Location

Loc Qty

Loc Code

FP002

161

18057 ✓

161

ST291

294

111650

294

D2972

Manufactured

No

290

Each

51.0000

6

6

D2972

Bushing

**

SP

Location

Loc Qty

Loc Code

ST022

51

33544

20

44160

31

D2974

Manufactured

No

290

Each

41.0000

1

1

D2974

Packer

**

SP

Location

Loc Qty

Loc Code

ST022

41

71997

41

D2975

Manufactured

No

290

Each

6.0000

2

D2975

Wearshoe

**

SP 12-03-22

Location

Loc Qty

Loc Code

ST497A

6

74721

6

2x

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Start Date: 03/02/2012

Required Date: 17/02/2012

Start Qty: 1.00

Required Qty: 1.00

AN4-51A

Purchased

No

290

Each

260.0000

3

3

AN4-51A

Bolt

**

LocationLoc QtyLoc Code

ST361

260

119127

30

119798

30

120187

200

AN960JD10L

NAS1149D0332J

Purchased

No

290

Each

0.0000

8

8

*AN960.ID10I *

Washer

**

MS21042L4

Purchased

No

290

Each

6,070.000

3

3

MS21042I 4

Nut

**

LocationLoc QtyLoc Code

ST300

6070

117441

51

117601

157

118451

133

119017

729

119075

5000

MS27039-1-08

Purchased

No

290

Each

1,559.000

8

8

MS27039-1-08

Screw

**

LocationLoc QtyLoc Code

ST291

1559

117423

77

118910

2

119075

292

119109

188

120308

1000

February-03-12 12:54:42 PM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN RF	DRAWN BY RF	DART AEROSPACE USA, INC. BELLEVUE, WA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D2966	REV. A SHEET 1 OF 2
DATE 00.03.08		TITLE BO 105 SKIDTUBE ASSEMBLY SCALE NTS	
A	00.03.08	NEW ISSUE	

RELEASED
00.05.11 #

Qty	Part Number	Description
X	D2966-041	SKIDTUBE ASSEMBLY
1	D2962-125	EXTRUSION
1	D2964	CAP
1	D2965	CAP
1	D2970-1	WEARPLATE
1	D2970-3	WEARPLATE
1	D2971	CROSS BOLT SPACER
7	D2973	CROSS BOLT SPACER
1	D2976	WEB
36	ALS7-1032-130 or ALS4-1032-130 or AKS7-1032-130 or AKS4-1032-130	INSERT
28	AN960JD10L	WASHER
26	MS27039-1-08	SCREW
2	MS27039-1-09	SCREW
1	D3176-1	BUSHING
1	D3176-3	NUT

A2

UNCONTROLLED COPY
SUBJECT TO REVISION
WITH AFTN
NO. 79816 MLCJ
12/02/03

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) WELDING TO BE DONE PER DART QSI 004.
- 3) INSERT D2976 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- 4) USE DART DRILL TEMPLATE DT8451 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION B-B (34 PLACES) AFTER FINISH. SEAL WEARPLATE SCREWS WITH SIKAFLEX-241/-291.
- 5) DO NOT INSTALL MS27039-1-08 SCREWS AND AN960JD10L WASHERS IN THESE LOCATIONS.
- 6) INSTALL ALS7-1032-130 INSERT, MS27039-1-08 SCREW, AND AN960JD10L WASHER IN 2 PLACES THIS LOCATION BEFORE POWDER COATING.
- 7) FINISH:

ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2976 WEB
POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART
QSI 005 4.4 (OPTIONAL) BLACK SANDTEX (REF 4.3.5.7)

A1

01.01.29
CP 01.01.30

A2	02.10.30	ADD D3176-1/-3	[Signature]
A1	01.01.29	CHANGE COLOR TO BLACK SANDTEX	[Signature]

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Dart Aerospace Ltd

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

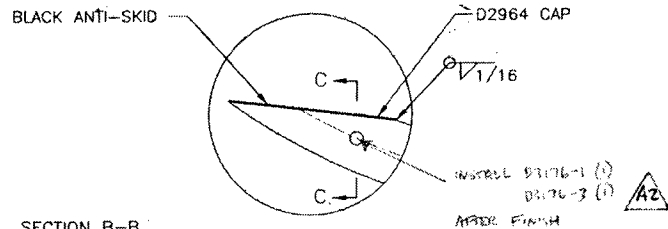
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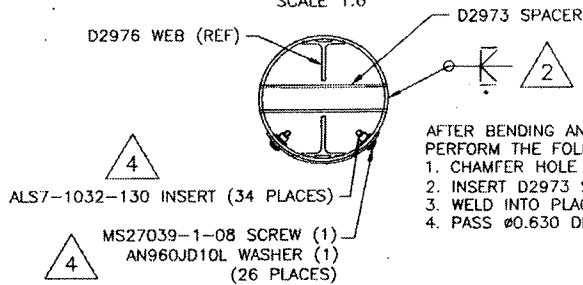
NOTE: Date & initial all entries

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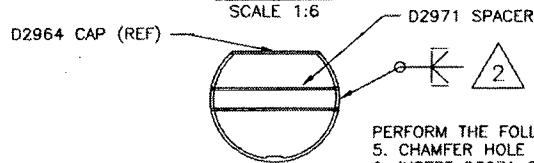
DETAIL A
SCALE 1:3



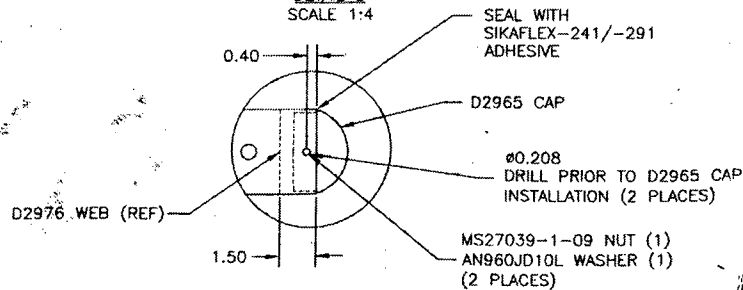
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SCALE 1:6



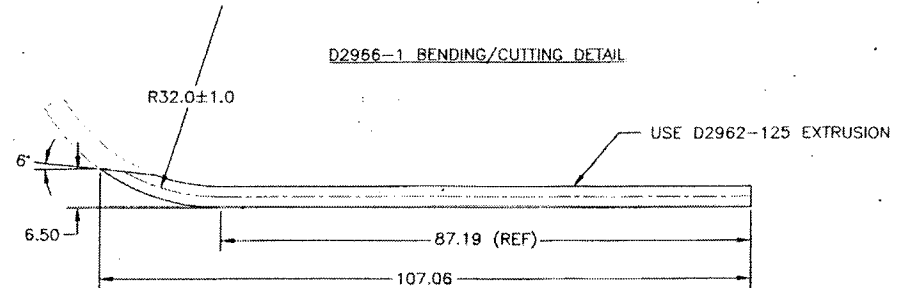
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SCALE 1:6



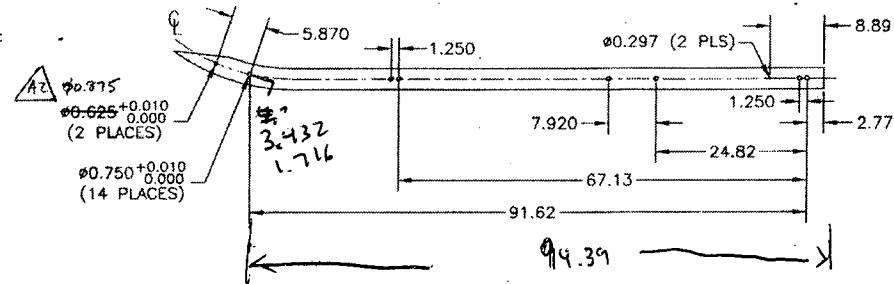
DETAIL D
SCALE 1:4



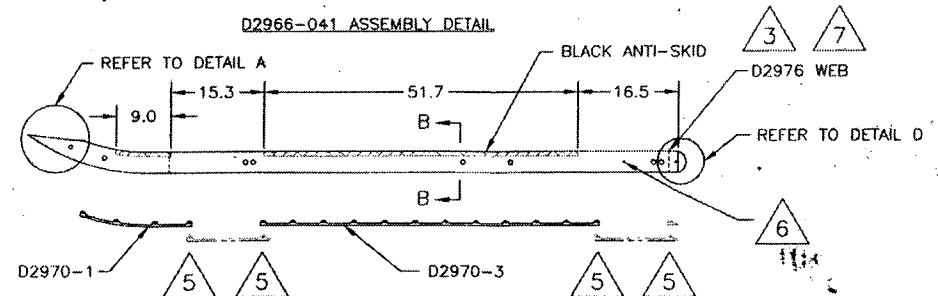
D2966-1 BENDING/CUTTING DETAIL



D2966-1 DRILLING DETAIL



D2966-041 ASSEMBLY DETAIL



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		DATE 00.03.08		TITLE B0 105 SKIDTUBE ASSEMBLY	SCALE 1:20

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00.05.11

W/O:		WORK ORDER CHANGES					
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